

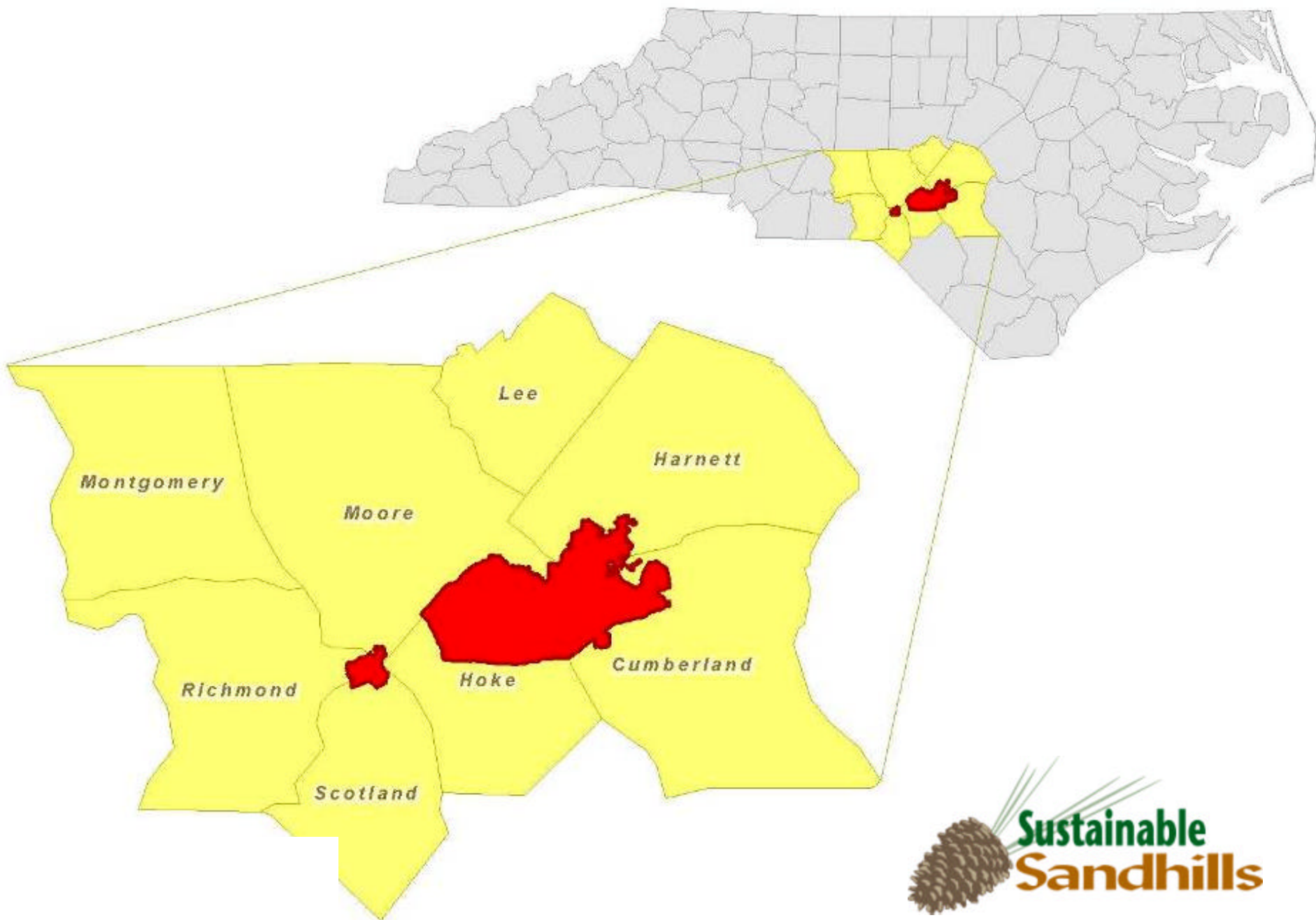


# A Regional Sustainability Initiative

Jon Parsons, P.E.

Executive Director









## Sandhills Ecosystem

*Richmond (67%)*

*Hoke (59%)*

*Harnett (36%)*

*Moore (58%)*

*Scotland (41%)*

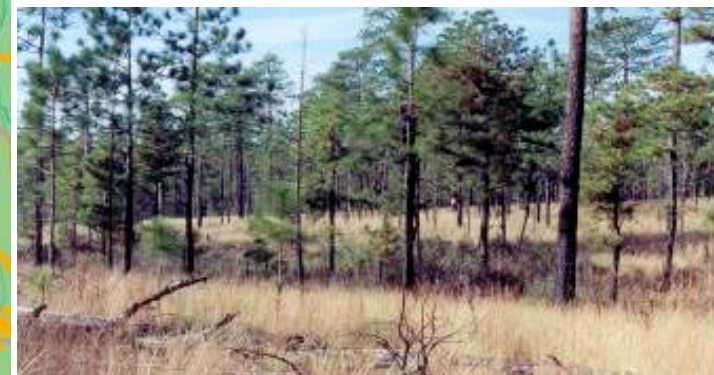
*Lee (33%)*

*Cumberland (11%)*

*Montgomery (10%)*

**2,507,600 Total Acres**

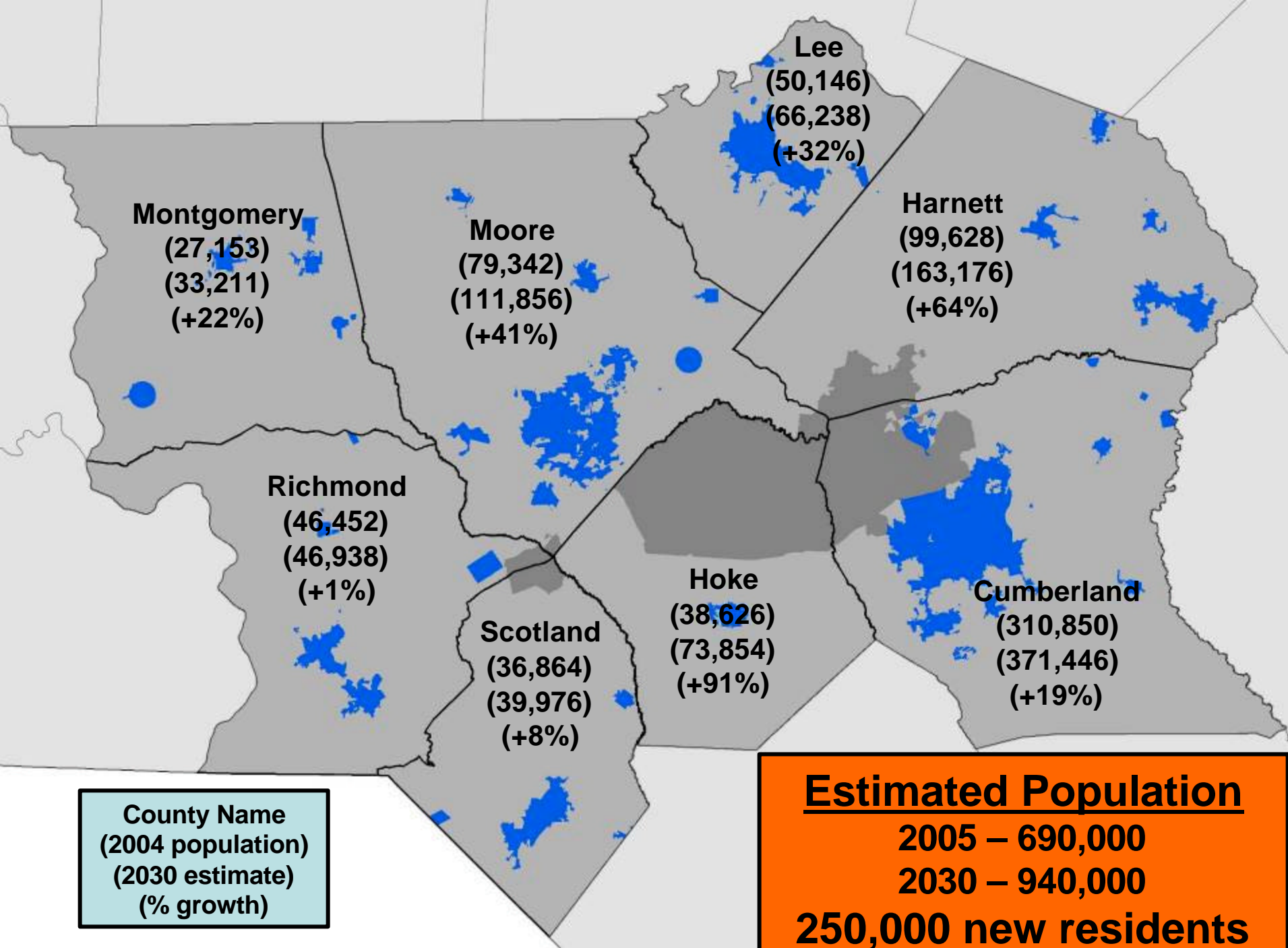
**977,600 Acres (39%)  
of Sandhills Ecosystem**











# Fort Bragg's Impact on the Sandhills

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Active Duty – 53,000

Reserve Components – 9,500

Temp Duty Students – 3,100

Mobilized Soldiers Assigned – 2,700

Civilian Employees – 8,800

Contractors – 3,500

Active Duty Family – 63,000

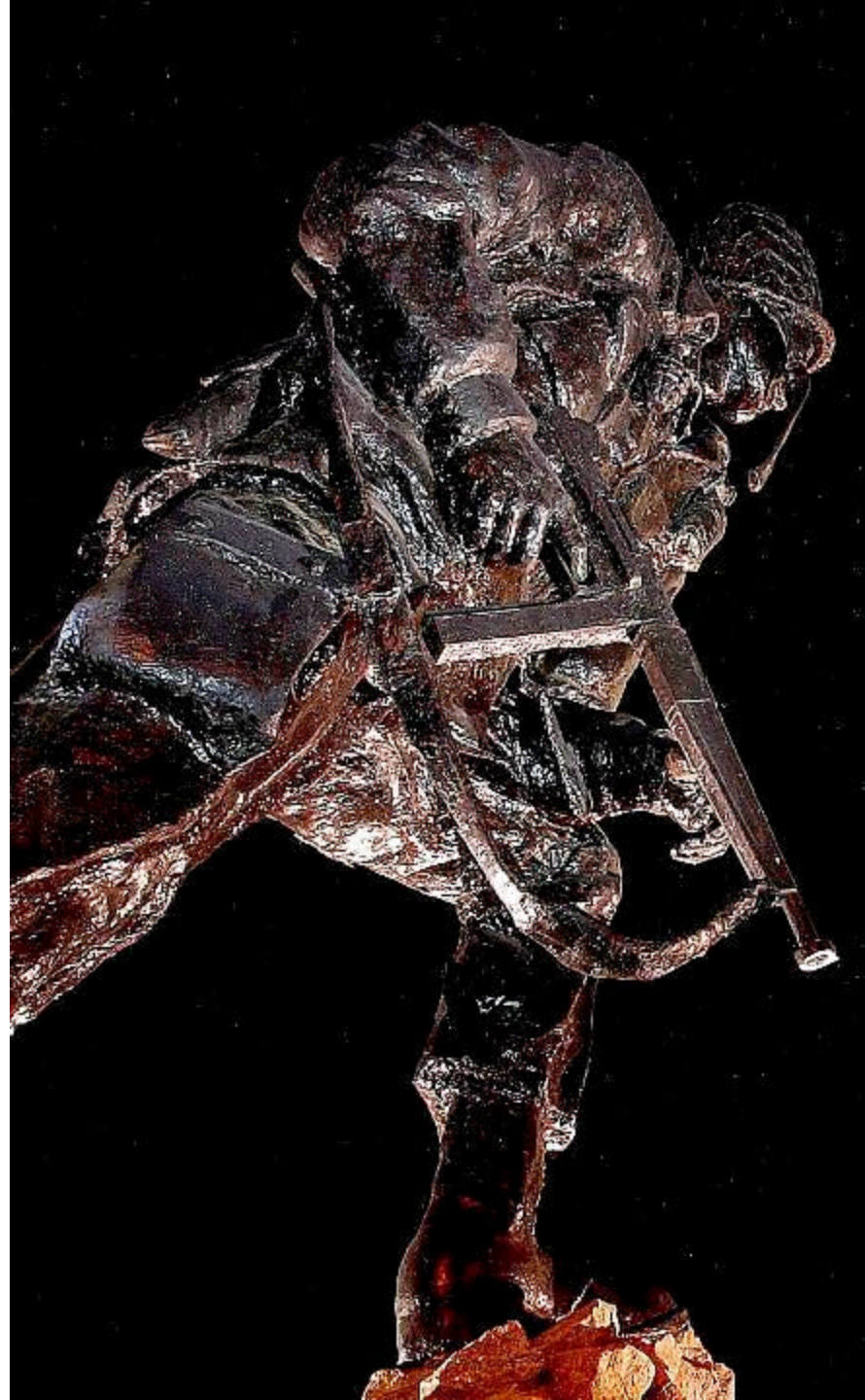
Retirees & Family – 98,500

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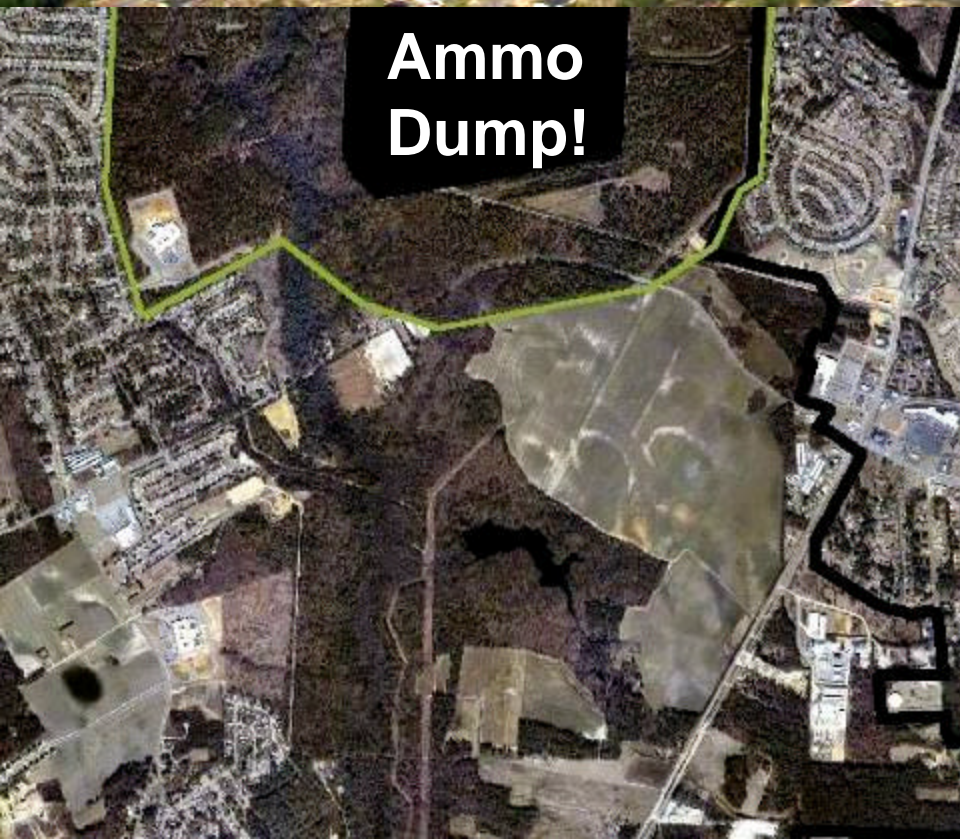
**TOTAL Population = 242,100**

**OR**

**35% of the Sandhills TOTAL**







# Threats to Fort Bragg's Mission:

- **Endangered species – the Red Cockaded Woodpecker**

## Private Lands Initiative

- **Inc** **ole d** **ment**  
**Reg** **nd L** **visory**  
**Commission's JLUS**

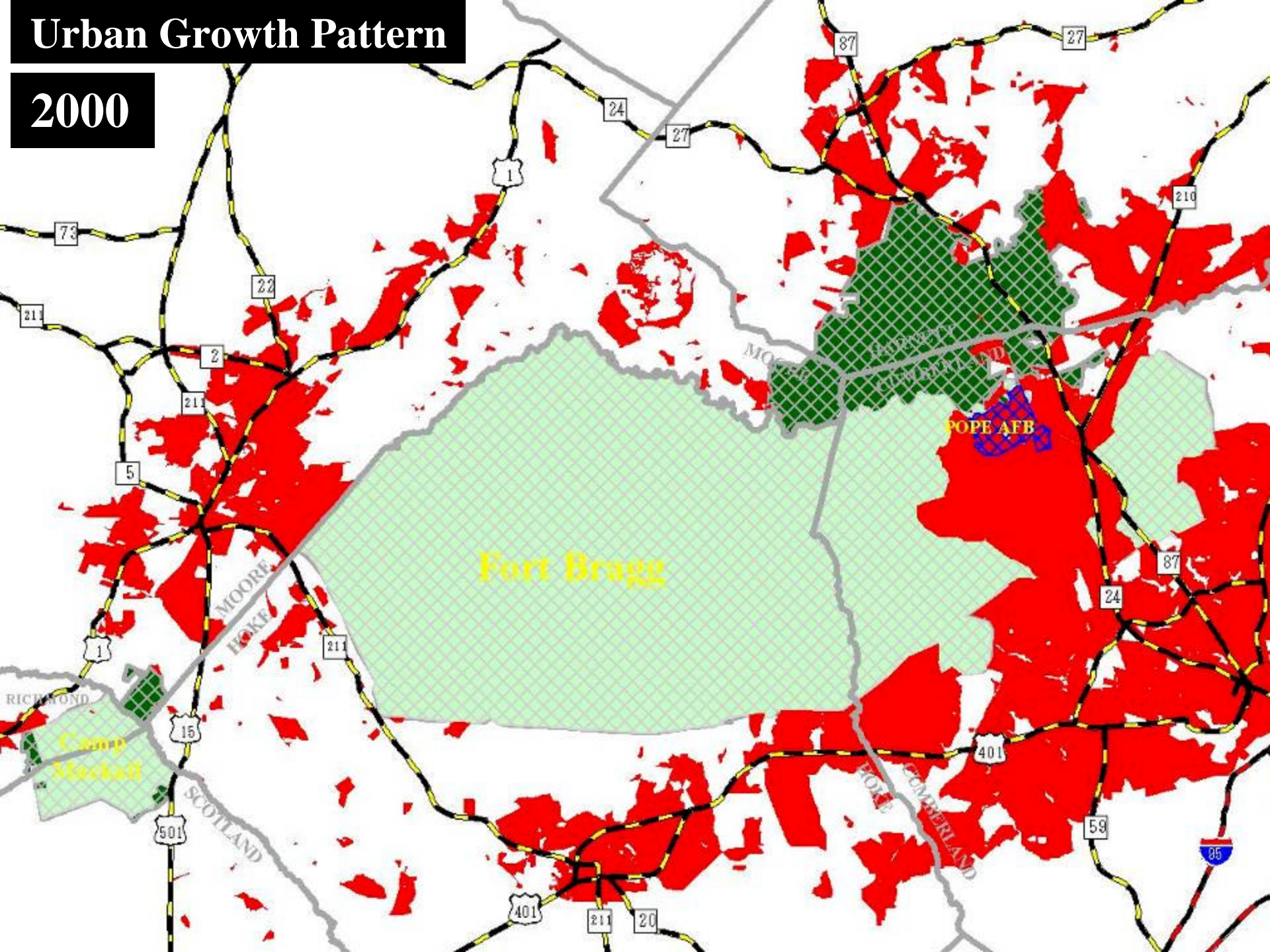


**Sandhills Area  
Land Trust**



# Urban Growth Pattern

2000







# Threats to Fort Bragg's Mission:

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- Endangered species – the Red Cockaded Woodpecker  
**Private Lands Initiative**
- Incompatible development  
**RLUAC's JLUS**
- Resource scarcity – fuel, clean air & water, landfill....

**Sustainable Fort Bragg**







**Sustainable Sandhills – circa 2003**





# Team Structure

## Leverage Fort Bragg Expertise

---

### Sustainable FORT BRAGG

- Water Use
- Water Quality
- Waste Reduction
- Green Purchasing
- Green Building
- Energy Conservation
- Air Quality - Commuting
- Air Quality – Alt Fuels
- Land - Compatible Use
- Land – Training

### Sustainable SANDHILLS

Water Team

Materials Use Team

Energy Team

Air Team

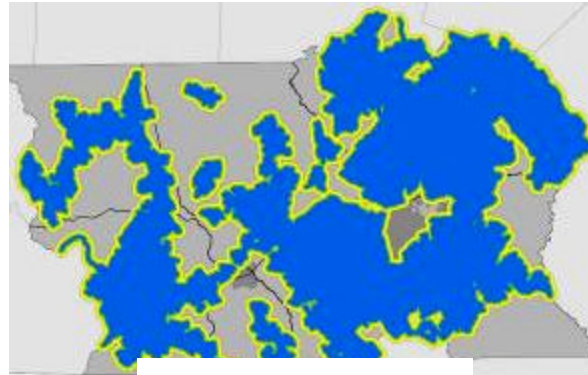
Land Use Team

# 5 Community Resource Teams

## MATERIALS USE



## LAND USE



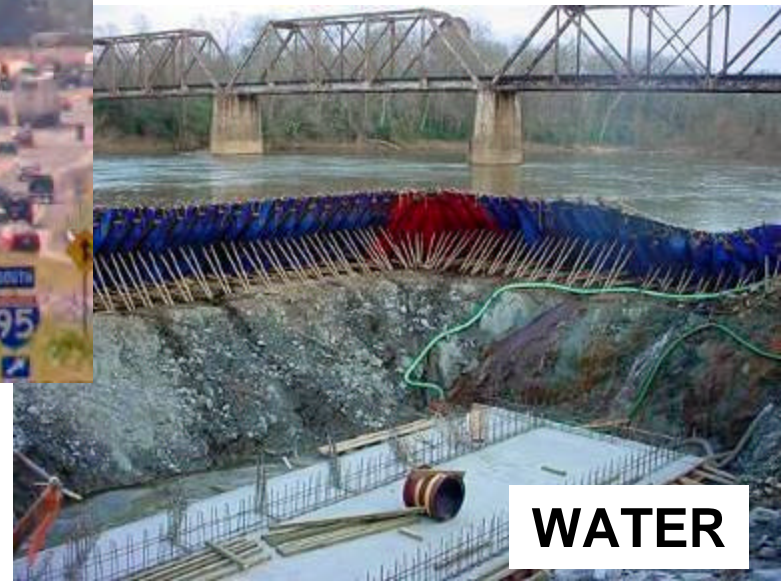
## ENERGY USE



## AIR



## WATER





# Team Programs

## **Team programs**

- **Raise Awareness in Team focus area**
- Education
- Decision support tool

## **Staff programs & special events**

- Sustainable Cumberland County event
- Sustainable Institutions program
- High Performance Schools Symposium
- Regional Indicators project



# It's hard to believe, but...

## Each Cumberland County citizen created 1800 pounds of trash in 2005!!!

North Carolina  
fills enough trash Dumpsters to reach from  
Boone to Bald Head  
every 47 days.

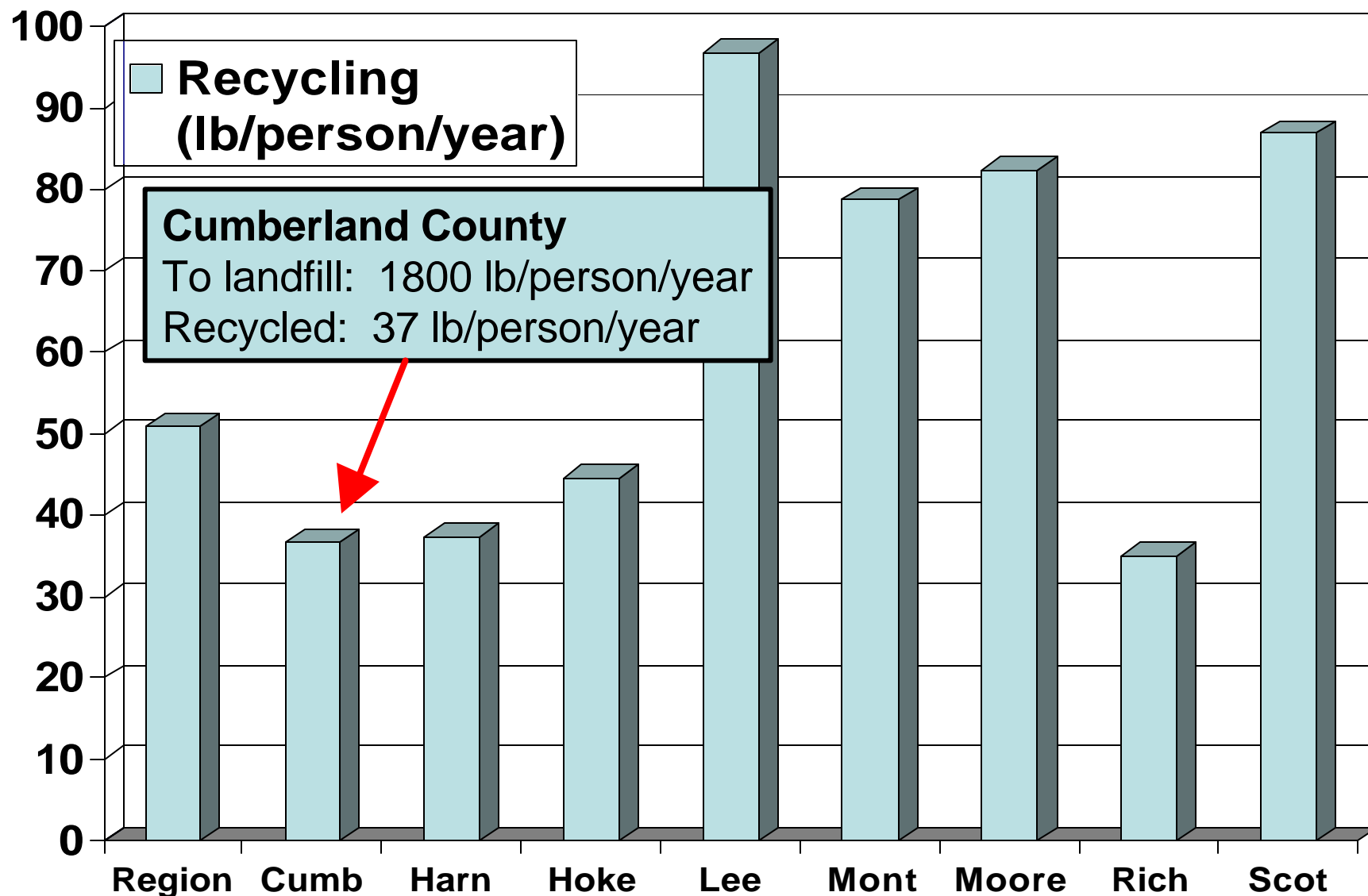






# Sandhills MSW Recovery Rates

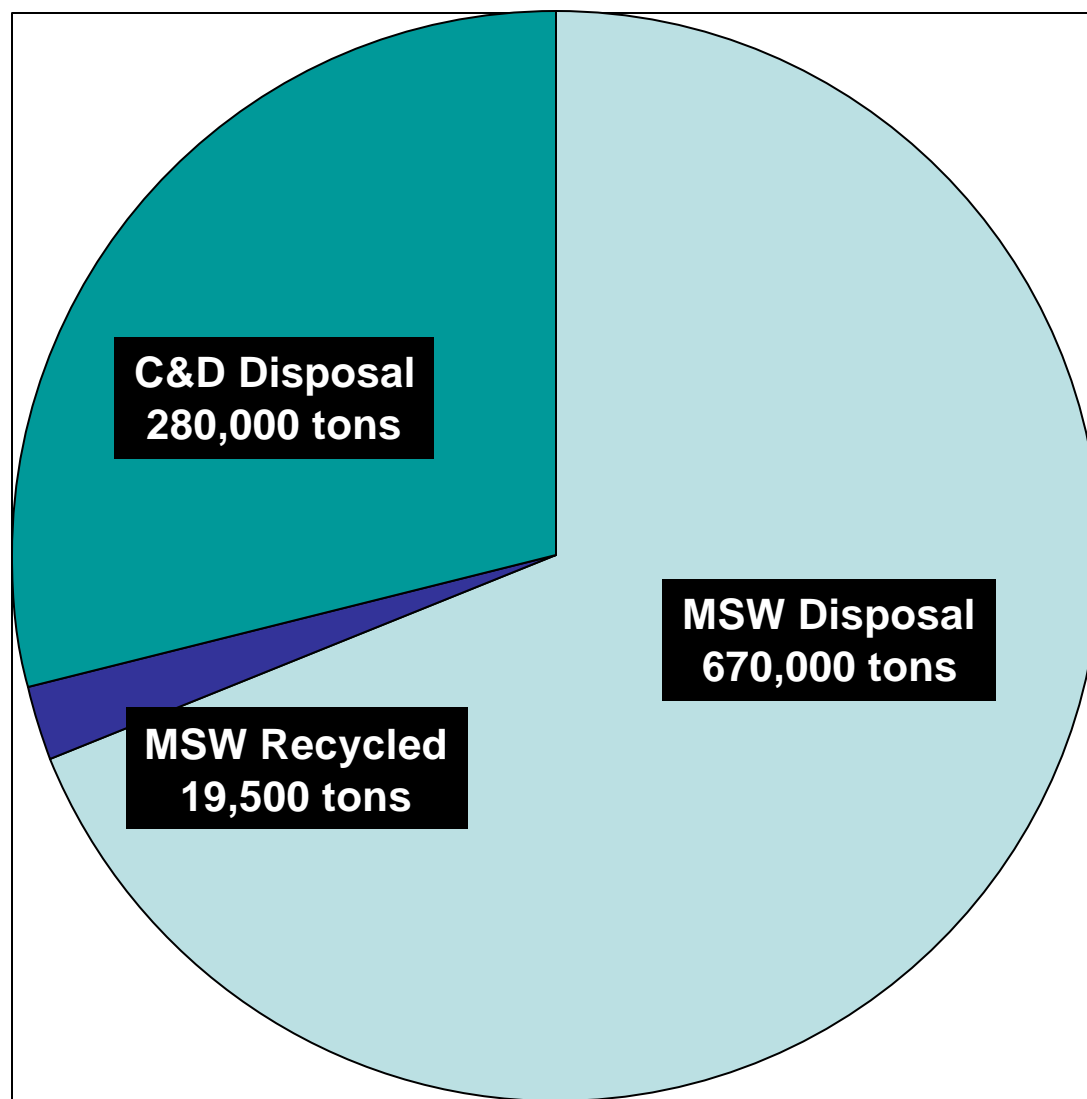
## July 2004 thru June 2005





# Sandhills Solid Waste Breakdown

July 2004 thru June 2005



**WHAT IT IS....**

**2.8% of MSW stream  
is recycled.**

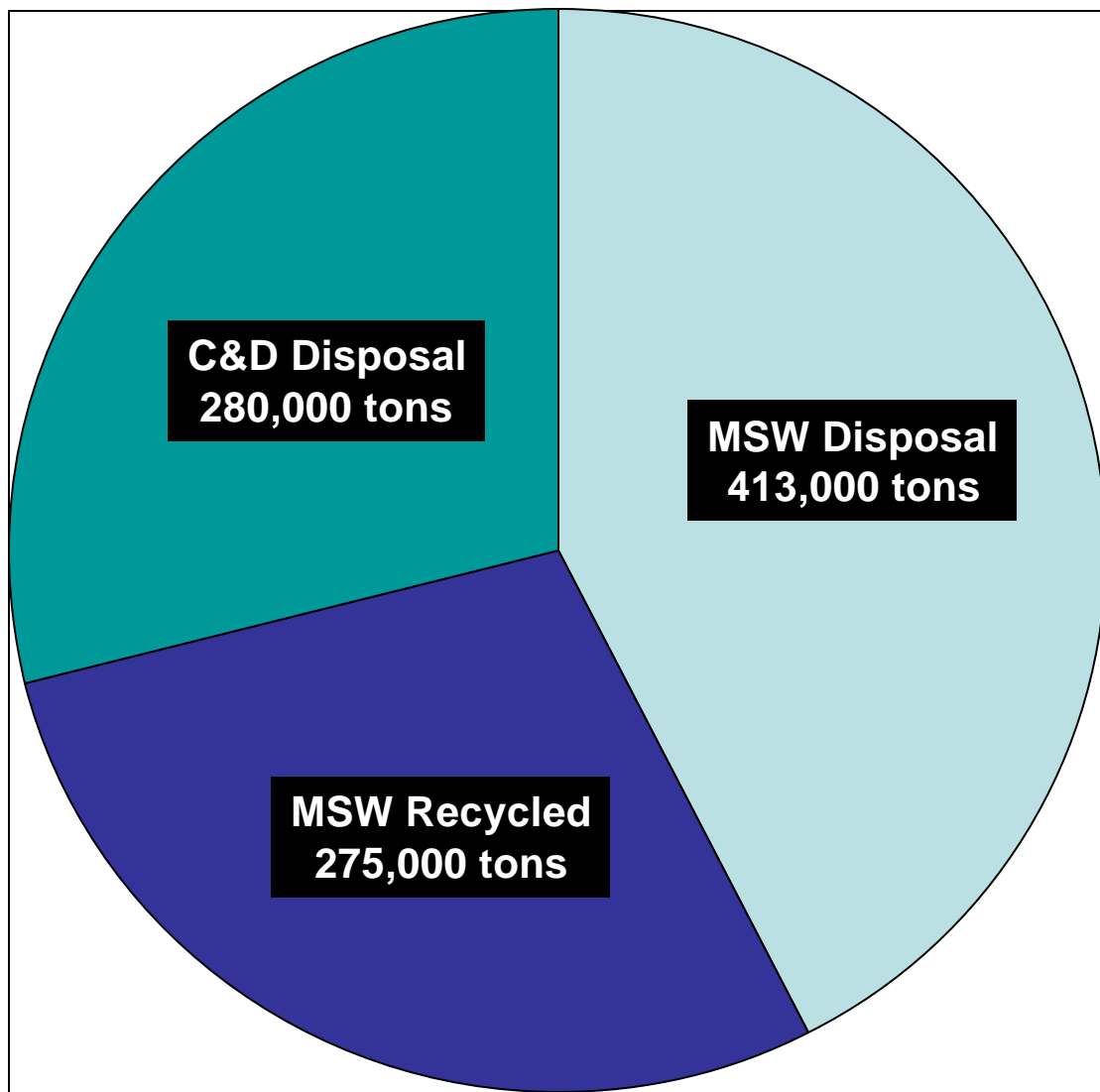
-  MSW Disposal
-  MSW Recycling
-  C&D Disposal





# Sandhills Solid Waste Breakdown

July 2004 thru June 2005



## WHAT IT COULD BE!!

If 40% of MSW stream  
was recycled –  
Another 250,000 tons  
of material to starving  
recycled mat'l markets!

- MSW Disposal
- MSW Recycling
- C&D Disposal



# Special Event Recycling

## So far in 2006

- Clark Park Nature Fair
- Dogwood Festival
- CFBG May Day
- FSO Symphonic Hoedown
- Downtown Alliance Glory Days
- CFRT Blues & Brews

## Upcoming events

- 4<sup>th</sup> Fridays, Market House Days
- International Folk Festival
- Dickens Holiday
- 10 available for loan at sporting events, parades, concerts....





# Team Programs

## Team programs

- Awareness
- Targeted Educational Programs
- Decision support tool

## Staff programs & special events

- Sustainable Cumberland County event
- Sustainable Institutions program
- High Performance Schools Symposium
- Regional Indicators project

# Educational Programs

**March-May 2006 (Materials Team)**  
**Vermi-Composting workshops**  
**For the general public**

**June-August 2006 (Energy Team)**  
**Healthy Built Homes Orientation**  
**For builders, realtors, homeowners**

**September 2006 (Energy Team)**  
**Renewable Energy Diploma Series**  
**Wind & Solar Electric Applications**  
**For plumbers, electricians, A/E**







# High Performance Schools Symposium (ALL Teams)

## October 23, 2006: Pine Needles Resort

A 1 day workshop for superintendents, school board members, teachers, and building professionals (A/E) from 10 southeastern NC counties.

IN THE NEXT 5 YEARS	Standard School Construction	High Performance Construction
New construction spending	\$1,000,000,000	\$1,050,000,000 (5% more)
Estimated annual O&M spending	\$100,000,000	\$75,000,000 (save \$25M annually – 2 year payback!)
Other benefits from High Performance Schools	Baseline	Improved test scores Improved student health Improved staff morale Reduced carbon emissions Reduced water use

# Team Programs

## Team programs

- Awareness
- Education
- Develop “Decision Support Tools”

## Staff programs & special events

- Sustainable Cumberland County event
- Sustainable Institutions program
- High Performance Schools Symposium
- Regional Indicators project





# **Land Use Team**

## **DECISION SUPPORT**



**USEPA Grant award  
3 years, \$265,000**

**Develop a GIS-based  
Sustainable Land Use  
Toolkit for the REGION**



**“Painless”  
public workshops!**

# Sustainable Land Use?

## What is it?



?







# Sustainable Land Use

**Think of the region like a quilt**

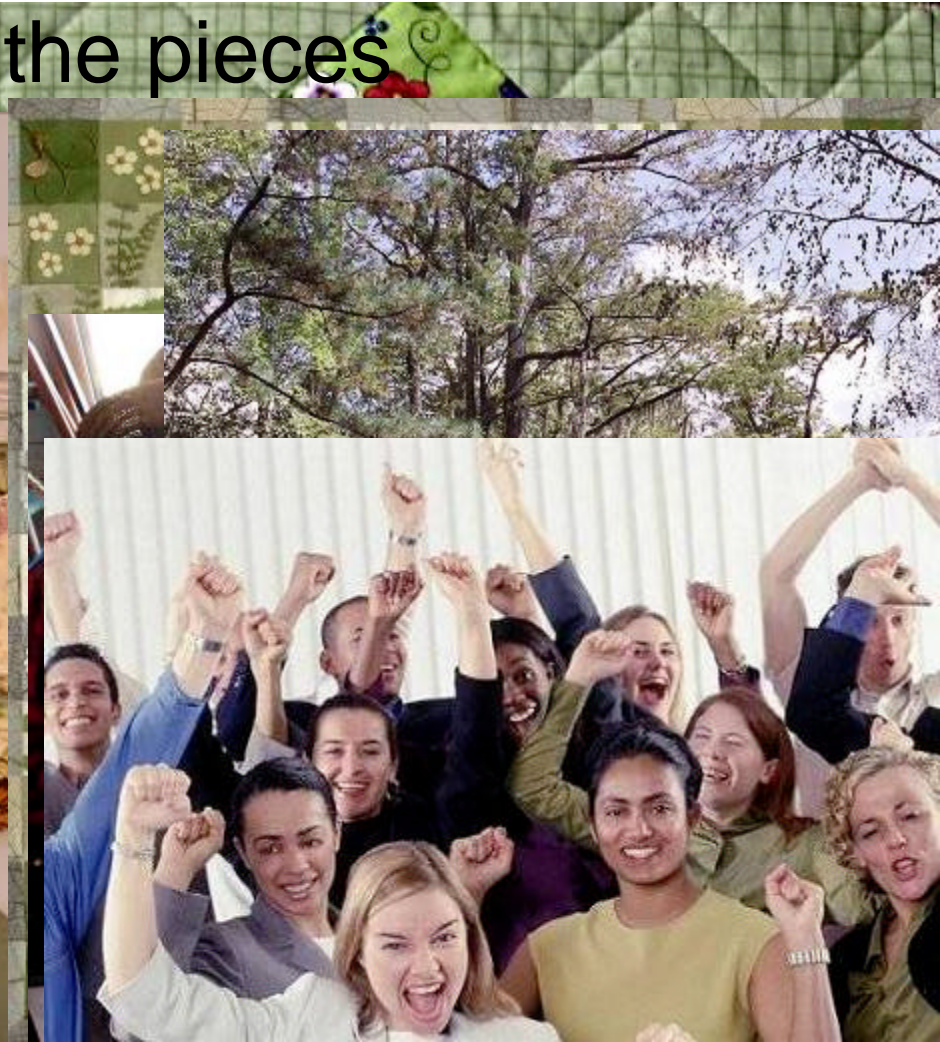
We're simply organizing the pieces

Our quilt needs to

**Durable**

**Warm**

**Beautiful**





# How we'll do it

## FIVE Land Uses

**Development – Industrial, Commercial, Residential**  
**Conservation – Working Lands, Natural Lands**

## Suitability

**Assets & Constraints**





# 3 Development Types

## INDUSTRIAL

**Locations for factories,  
processing plants, warehouses**

- Manufacturing, shipping/receiving
- Relatively high paying jobs
- May require skilled workforce
- Process impacts to environment?



# 3 Development Types

## COMMERCIAL

Locations for office, retail, and public services

- Retail sales & service
- Entertainment & activity
- Skilled and unskilled workforce
- Requires access to customers!





# 3 Development Types

## RESIDENTIAL

### Locations for homes

- Large lots – “McMansions”
- Suburban subdivisions
- Urban – higher density
- Requires public services



# Development ASSETS

## ASSET LIST

- In or near city limit
- Near public water
- Near public sewer
- Appropriate parcel size
- Near primary roads
- Near active rail service
- Influence of Fort Bragg
- Near schools





# Development Constraints

## CONSTRAINT LIST

- Too near Ft. Bragg
- Steep slope
- Wet soils (hydric)
- Flood zones
- Wetlands
- Septic suitability



# 2 Conservation Uses

## WORKING LANDS

Locations for viable, large farms

- Cultivated areas
- Pastures
- Access to markets & agricultural services

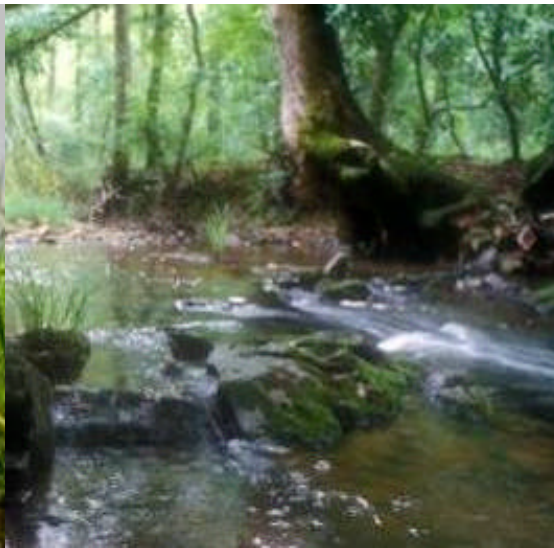




# 2 Conservation Uses

## NATURAL LANDS

- Large undeveloped areas
- Habitat for wildlife
- Clean water resources
- Game lands & recreation



# Conservation ASSETS

## ASSET LIST

- Endangered species habitat
- In or near streams & lakes
- Drinking water watersheds
- Wetlands
- Near conservation lands
- Existing cultivated areas
- Prime farmland soils
- Existing pasture land





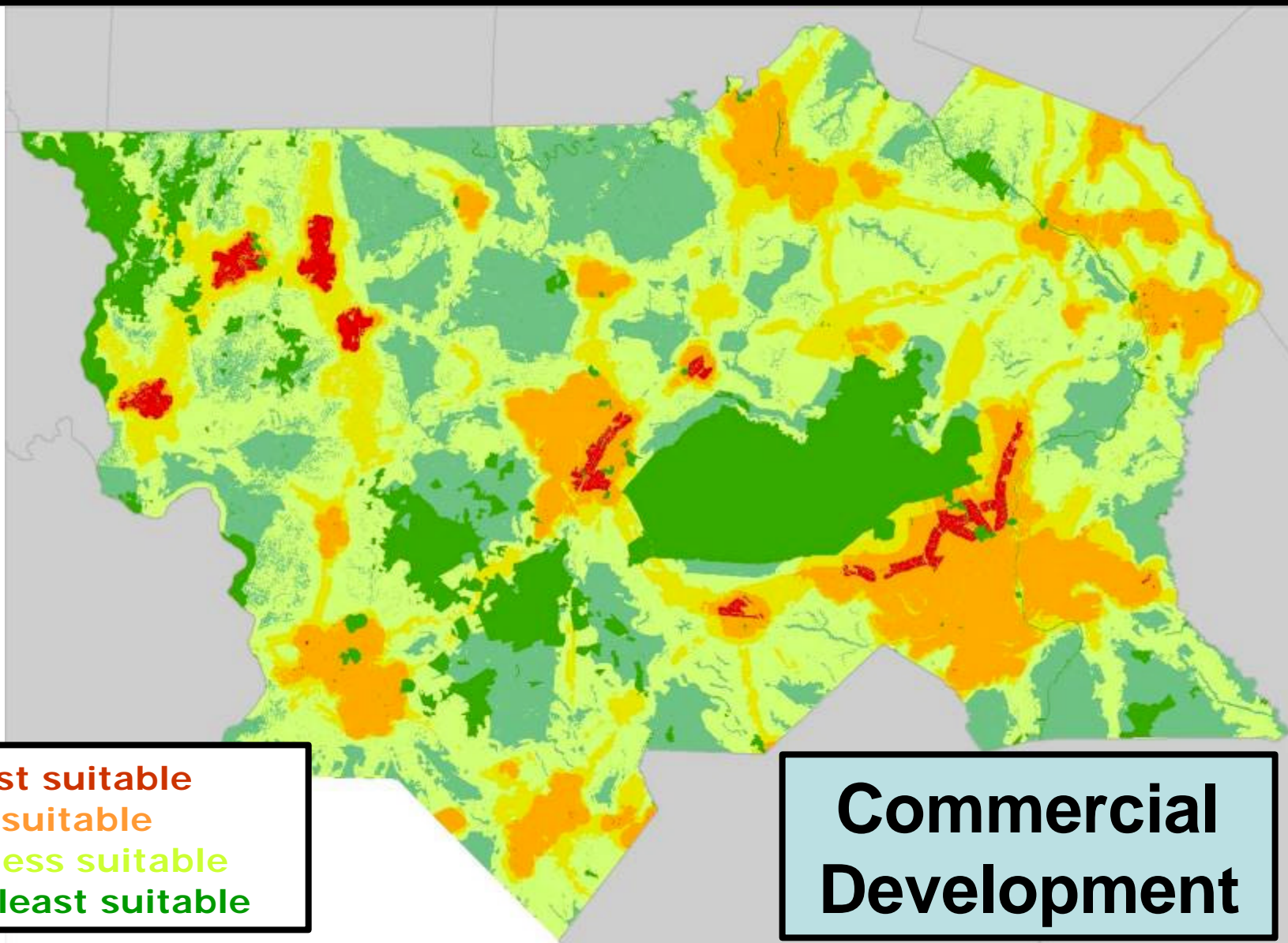
# Conservation CONSTRAINTS

## CONSTRAINT LIST

- In or near a city limit
- Near primary road
- Near public sewer
- Near high \$ land



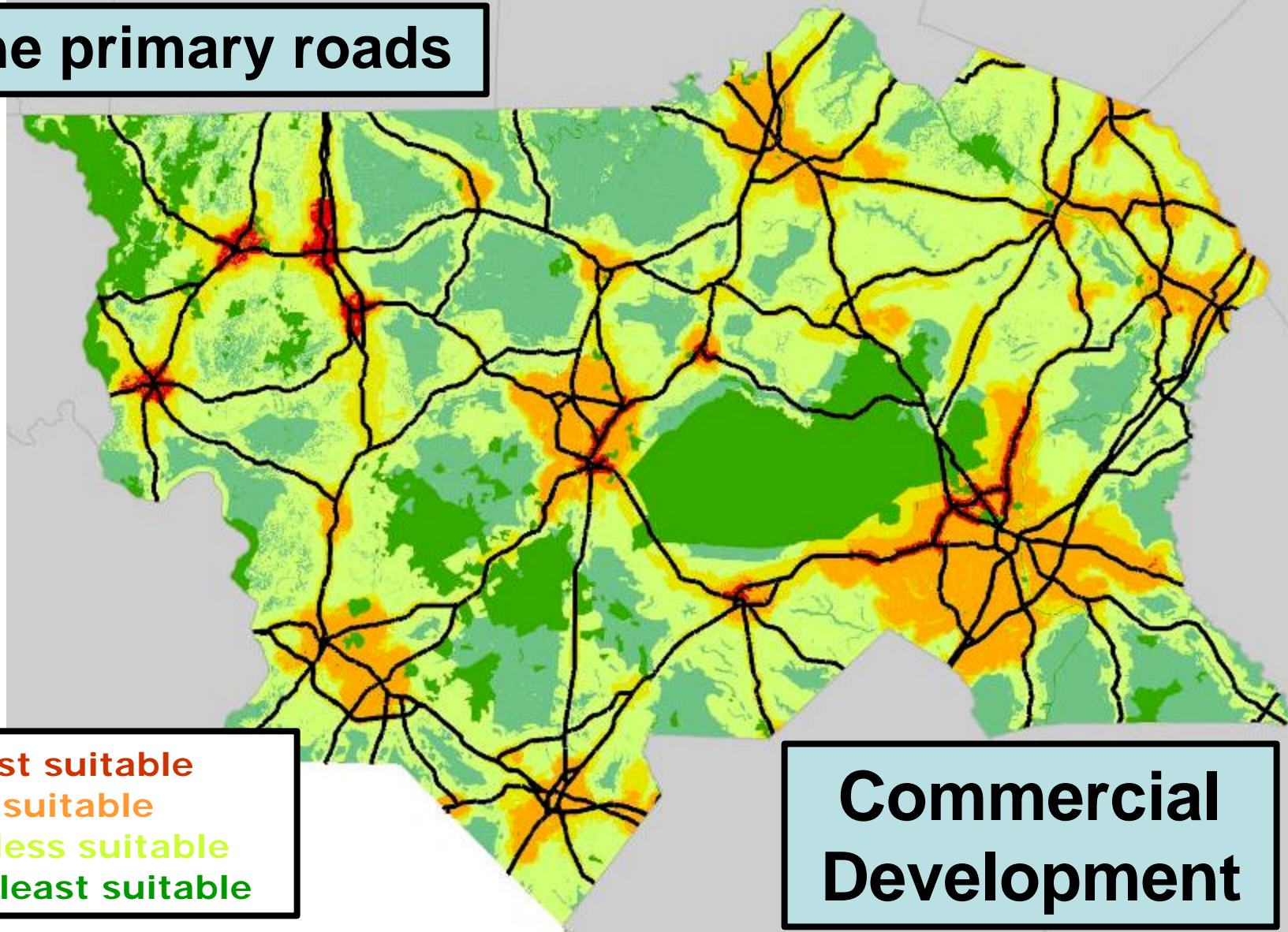
# 1 of 5 “Suitability Maps”





# 1 of 5 “Suitability Maps”

Add the primary roads



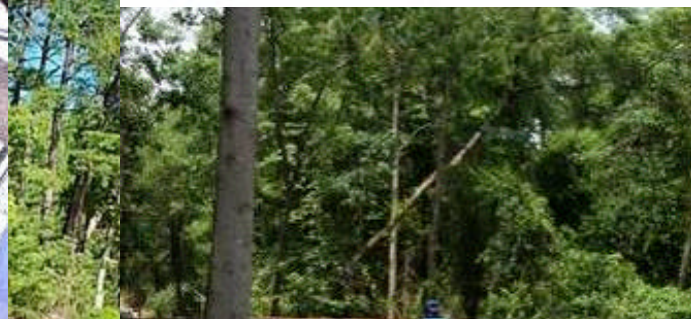
Red - most suitable  
Orange - suitable  
Yellow - less suitable  
Greens - least suitable

**Commercial  
Development**



# What's next?

- Overlay 5 maps into ONE
- Add special places –  
historic, cultural, recr
- Add statistics/reportin





## Alternative Futures

### 3 development scenarios

- Business as usual
- Incremental change
- “Deep” change

### Variable impacts on



# So what'll it be???

**A crazy quilt?**

**Or sustainable  
future?**







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